

## AMENDMENT AND RESPONSE

Serial No.: 09/291,798

Filing Date: April 14, 1999

Title: REDUCED POWER CONSUMPTION IN A COMMUNICATION DEVICE

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Attorney Docket No. 100.108US01

7-7-03 TV

CLAIMS

Please amend the following claims.

1. (Currently Amended) A method for controlling power consumption in a communication device, the method comprising:

powering down at least a portion of a receiver of the communication device for a selected period of time in response to an indication from a data source that a data transmission has ended;

powering up the at least a portion of a receiver to ~~check for~~ detect incoming data when the selected period of time expires;

receiving one or more packets when incoming data is detected, and

wherein powering up the at least a portion of a receiver comprises powering up in time to allow detection of an attempted retransmission of a packet.

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Claim 2 (Canceled)

3. (Original) The method of claim 1, wherein powering down the at least a portion of a receiver for a selected period of time comprises setting and decrementing a counter.

4. (Original) The method of claim 3, and further comprising synchronizing the counter with a counter disposed at a source of the incoming data.

5. (Original) The method of claim 1, wherein powering up the at least a portion of a receiver to check for incoming data comprises:

powering up the receiver;

checking for incoming data;

when no data is detected, checking for incoming data after another selected period of time;

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when incoming data is detected, processing the data; and  
when no incoming data is detected or a last data message is received, powering down the receiver for a selected period of time.

6. (Previously Amended) A communication device, comprising:
- a transmitter that transmits data;
  - a receiver that receives data over a communications link;
  - a signal processing circuit, coupled to the transmitter and receiver, to prepare data for transmission and to process data received by the receiver; and
  - a control circuit, responsive to the signal processor, that selectively powers at least a portion of the receiver down for a period of time and that powers up the at least a portion of a receiver to check for incoming data when the selected period of time expires, wherein the control circuit includes a counter that is substantially synchronized with a counter at the source of the incoming data in response to an indication from the data source that a data transmission has ended.
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Claim 7 (Canceled)

8. (Original) The communication device of claim 6, wherein the control circuit powers up the receiver to check for incoming data for at least a selected period of time.
9. (Original) The communication device of claim 6, wherein the control circuit selectively powers down the at least a portion of a receiver when a selected period of time after power-up has expired or when a signal indicates that a current data transmission is complete.
10. (Original) The communication device of claim 6, wherein the signal processing circuit comprises a signal processing circuit for a cable modem.

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11. (Previously Amended) The communication device of claim 6, further comprising receiving one or more packets, and wherein the control circuit powers up the at least a portion of a receiver in time to allow detection of an attempted retransmission of a packet.
12. (Previously Amended) A communication network, comprising:  
a head end communication device;  
at least one remote communication device that is communicatively coupled to the head end communication device; and  
wherein each of the at least one remote communication device includes a control circuit that powers down a receiver of the at least one remote communication device for a selected period of time and that powers up the receiver of the at least one remote communication device to check for incoming data from the head end communication device when the selected period of time expires, wherein the control circuit includes a counter that is substantially synchronized with a counter at the source of the incoming data in response to an indication from the head end communication device that a data transmission has ended.
13. (Previously Amended) The communication network of claim 12, wherein each of the at least one remote communication device is powered over the connection between the head end communication device and the at least one remote communication device.
14. (Previously Amended) The communication network of claim 12, wherein each of the at least one remote communication device comprises a cable modem.
15. (Previously Amended) The communication network of claim 12, wherein each of the remote communication device is communicatively coupled to the head end communication device over a communication network.

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16. (Previously Amended) The communication network of claim 12, wherein the head end communication device transmits data with a protocol that allows for retransmission of data that is not acknowledged by the at least one remote communication device.

17. (Twice Amended) A power control circuit for a communication device, the power control circuit comprising:

a counter that establishes a selected time period for powering down a receiver of the communication device;

a processor, coupled to the counter, that is programmed to control the reset of the counter, to power down the receiver, and to power up the receiver to check for incoming data packets transmitted by another communication device when the counter indicates that the selected time period has expired; and

wherein the counter establishes a time period that is sufficient to allow detection of a data packet that is retransmitted by the other communication device when no acknowledgment signal is received by the other communication device.

Claim 18 (Canceled)

19. (Original) The power control circuit of claim 17, wherein the processor is programmed to power up the receiver for a selected time period to check for incoming data.

20. (Previously Added) A method of power management for a communication system that includes at least one head end communication device and at least one remote communication device, comprising:

- setting a counter at a remote unit to a predetermined power down period;
- checking for an incoming transmission after the power down period has expired;
- if an incoming transmission is received, resetting the counter in response to an indication from the head end communication device that the transmission has ended;
- if no incoming transmission is received, resetting the counter to the predetermined power

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down period.

21. (Currently Amended) The method of claim ~~19~~ 20 further comprising setting a counter at the head end device to the predetermined power down period upon sending an indication that a transmission to the remote communication device has ended.

22. (Currently Amended) The method of claim ~~19~~ 20 wherein the power down period is timed such that the remote unit will power up again in time to detect a retransmission from the head end.

23. (Currently Amended) The method of claim ~~20~~ 21 further comprising providing a delay to account for timing variations between the counter at the remote unit and the counter at the head end unit.

24. (Previously Added) A method for controlling power consumption in a remote communication device in signal communication with a head end communication device, the method comprising:

starting a counter for the remote communication device to time a predetermined power down period;

powering down the remote communication device for the predetermined power down period;

powering up the remote communication device to check for any incoming data;

starting a counter for the head end communication device to time for substantially the same predetermined power down period after completion of a data transmission to the remote.

25. (Previously Added) A method for controlling power consumption in a remote communication device in signal communication with a head end communication device, the method comprising:

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starting a counter at the remote communication device to count for a predetermined power down period after the remote unit has received a transmission of a final packet or other indication that transmission from the head end communication device has come to an end;

starting a counter at the head end communication device at substantially the same time as the remote communication device counter is set;

wherein a substantial synchronization is maintained between the counters.

26. (Previously Amended) A method for controlling power consumption in a remote packet communication device in signal communication with a head end packet communication device, the method comprising:

setting a power down timer for the remote packet communication device to a power down period so that the remote packet communication device will power up again in time to detect a retransmission of data from the head end packet communication device.

27. (Currently Amended) The method of claim ~~25~~ 26 wherein the retransmission of data comprises a ring signal.

28. (Currently Amended) The method of claim ~~25~~ 26 wherein the retransmission of data comprises a data packet.

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